

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-24. (Canceled)

1 25. (Currently amended) A computer system of claim 24~~29~~,
2 wherein said first node includes a first input/output (I/O) interface via which said
3 first node is coupled to said first disk controller, and said second node includes a second I/O
4 interface via which said second node is coupled to said second disk controller,
5 wherein said first path information further includes a first disk controller ID
6 designating said first disk controller, and a first I/O interface ID designating said first I/O
7 interface,
8 wherein said second path information further includes a second disk controller ID
9 designating said second disk controller, and a second I/O interface ID designating said second
10 I/O interface.

1 26. (Currently amended) A computer system of claim 24~~29~~, further
2 comprising a third node coupled to said first node and said second node via said network, said
3 third node including said file management table and said logical disk management table,
4 wherein when said third node detects a fault in said first node, said third node
5 sends said second node a request for changing an access path to said logical disk,
6 said second node changes said first status information and said second status
7 information in said logical disk management table in order to change an access path to said
8 logical disk, and sends said logical disk ID, said changed first path information, and said changed
9 second path information to other nodes coupled to said network, and
10 wherein said other nodes can update their respective logical disk management
11 tables based on data received from said second node.

1 27. (Previously presented) A computer system of claim 26,
2 wherein if an access request issued from one of said other nodes to said logical
3 disk times out, then said one of said other nodes selects an access path to said logical disk based
4 on its updated logical disk management table.

1 28. (Previously presented) A computer system of claim 26,
2 wherein when said third node detects a fault in said first node, said third node
3 selects a path which becomes unavailable and a corresponding path whose status is waiting, and
4 said third node sends said request for changing an access path to said second
5 node, said second node is coupled to said logical disk via said corresponding path.

1 29. (Currently amended) A computer system comprising: of claim 24,
2 a first node coupled to a physical disk via a first path;
3 a second node coupled to said physical disk via a second path, said second node
4 being coupled to said first node via a network; and
5 said physical disk connecting to a first disk controller and to a second disk
6 controller, said first disk controller being coupled to said first node via said first path, said
7 second disk controller being coupled to said second node via said second path,
8 each of said first node and said second node comprising:
9 a disk driver for performing disk I/O processing;
10 a file management table including a file ID and a logical disk ID of a
11 logical disk, said logical disk being a storage area in said physical disk and storing a file
12 corresponding to said file ID; and
13 a logical disk management table including said logical disk ID, a first path
14 information designating said first path, and a second path information designating said
15 second path, said first path information including a first node ID designating said first
16 node and first status information designating status of said first path, and said second path

17 information includes a second node ID designating said second node and second status
18 information designating status of said second path,

19 each of said first node and said second node configured to select a path for
20 accessing said logical disk, if it receives an access request including said file ID, said
21 path being selected based on said received file ID, said file management table, and said
22 logical disk management table,

23 wherein when said disk driver determines that said first path becomes
24 unavailable, said first node configured to respond by:

25 changing said first status information and said second status
26 information in said logical disk management table in order to change an access
27 path to said logical disk; and
28 sending said logical disk ID, said changed first path information, and said
29 changed second path information to other nodes coupled to said network,

30 wherein one of said other nodes coupled to said network is coupled to a disk
31 storing a mount construction file, said mount construction file including a node ID designating a
32 node which exists on a path, and a path status designating a status of said path, and
33 said one of said other nodes creates said logical disk management table based on
34 said mount construction file.

1 30. (Previously presented) A computer system of claim 29,
2 wherein said mount construction file further includes an I/O interface ID
3 designating an I/O interface which exists on said path, and a disk controller ID designating a disk
4 controller which exists on said path.

1 31. (Previously presented) A computer system of claim 30,
2 wherein said one of nodes sends said logical disk management table to one or
3 more of said other nodes coupled to said network.

1 32. (Previously presented) A computer system of claim 30,
2 when said first path becomes unavailable and one of said other nodes receives
3 said logical disk ID, said changed first path information, and said changed second path
4 information from said first node, said one of said other nodes updating its mount construction
5 file.

1 33. (Currently amended) A computer system of claim 2429,
2 wherein each of said first node and said second node further includes a buffer
3 cache for storing data to be written into said logical disk, and
4 when said first path becomes unavailable before storing data from said buffer
5 cache of said first node into said logical disk, said first node sends said data to said second node,
6 and said second node stores said data into said logical disk via said second path.

1 34. (Currently amended) A computer system of claim 2429,
2 wherein said file management table further includes file management information
3 which is updated based on a received write request,
4 when said file management information is updated, each of said first node and
5 said second node stores said file management table into said physical disk, and
6 when said first path becomes unavailable before said updated file management
7 table in said first node is stored into said physical disk, said first node sends data in said updated
8 file management table to said second node, and said second node writes said received data into
9 said physical disk.

1 35. (Currently amended) A computer system of claim 2429,
2 wherein each of said first disk controller and said second disk controller includes
3 a disk cache for storing data to be stored in said physical disk, and
4 when said first path becomes unavailable before data stored in said disk cache of
5 said first disk controller is stored in said physical disk, said second node issues a command for
6 writing said data in said disk cache into said physical disk via said second disk.

36. (Canceled)

37. (Currently amended) A first node of claim ~~36~~39,

wherein said first node is coupled to a disk storing a mount construction file, said mount construction file including a path status information designating a status of a path and a node ID designating a node which exists on said path, and

wherein said first node creates said logical disk management table according to said mount construction file, and sends it to other nodes coupled to said network.

38. (Previously presented) A first node of claim 37,

wherein when said first node changes said status information of said first path and said second path, said first nodes updates said mount construction file.

39. (Currently amended) A first node ~~comprising: of claim 36,~~

a first I/O interface for coupling to a physical disk via a first disk controller, said physical disk coupled to said second node via a second disk controller and a second I/O interface;

a disk driver to perform I/O operations with said physical disk;

a file management table including a file ID and a logical disk ID of a logical disk, said logical disk being a storage area in said physical disk and storing a file corresponding to said file ID; and

a logical disk management table including said logical disk ID, a first path information designating a first path through said first node, and a second path information designating a second path through said second node, each of said first path information and said second path information including a node ID designating a node on said path, and a status information designating availability of said path,

wherein when said status information of said first path is available and said status information of said second path is waiting, said first node selects said first path for accessing a file designated by said file ID which is included in an access request,

17 wherein when disk driver detects that said first path becomes unavailable, said
18 first node changes said status information of said first path to unavailable, changes said status
19 information of said second path to available, and sends said logical disk ID, a changed first path
20 information, and a changed second path information to said second node in order to change a
21 path used for accessing said logical disk,

22 wherein said first node further comprises a buffer cache for storing data to be
23 written into said logical disk,

24 wherein when said first path becomes unavailable before storing data stored in
25 said buffer cache into said logical disk, said first node sends said data to said second node to
26 store said data into said logical disk via said second path.

1 40. (Currently amended) A first node of claim ~~36~~39,
2 wherein said file management table further includes file management information
3 which is updated based on a received write request,

4 wherein when said file management information is updated, said first node stores
5 said file management table into said physical disk, and

6 wherein when said first path becomes unavailable before said updated file
7 management table is stored into said physical disk, said first node sends data in said updated file
8 management table to said second node to store said data into said physical disk via said second
9 path.

1 41. (Canceled)

1 42. (Previously presented) A second node ~~comprising of claim 41,~~
2 a second I/O interface for coupling to a physical disk via a second disk controller,
3 said physical disk being coupled to said first node via a first disk controller and a first I/O
4 interface;

5 a disk driver to perform I/O processing with said physical disk;

6 a file management table including a file ID and a logical disk ID of a logical disk,
7 said logical disk being a storage area in said physical disk and storing a file corresponding to said
8 file ID; and

9 a logical disk management table including said logical disk ID, a first path
10 information designating a first path to said logical disk through said first node, and a second path
11 information designating a second path to said logical disk through said second node, each of said
12 first path information and said second path information including a node ID designating a node
13 on said path, and a status information designating availability of said path,

14 wherein when said status information of said first path is available and said status
15 information of said second path is waiting, said second node receives an access request including
16 said file ID and transfers said access request to said first node via said network thereby accessing
17 said logical disk through said first path,

18 wherein when said disk driver detects that said first path becomes unavailable,
19 said second node changes said status information of said first path to unavailable and changes
20 said status information of said second path to available in order to change a path used for
21 accessing said logical disk wherein when said first node stores data to be written into said
22 physical disk in said first node and said first path becomes unavailable before said data stored in
23 said first node is written into said physical disk, said second node receives said data from said
24 first node and writes said data into said physical disk.

1 43. (Previously presented) A second node of claim 42,
2 wherein said first disk controller includes a disk cache for storing data to be
3 written into said physical disk,
4 wherein when said first path becomes unavailable before data stored in said disk
5 cache is written into said physical disk, said second node issues a command for writing said data
6 stored in said disk cache into said physical disk.